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REMARKS

Claims 1-4, 6-11, 13-18, and 20 are all the claims pending in the application. Claims 5, 12, and 19 are canceled, above. Claims 1-4, 6-11, 13-18, and 20 stand rejected on prior art grounds. Applicants respectfully traverse these objections/rejections based on the following discussion.

**I. The Prior Art Rejections**

Claims 13, 6, 8-10, 13, and 15-17 stand rejected under 35 U.S.C. §103(b) as being unpatentable over Van Huben et al., hereinafter "Van Huben" in view of Beasley et al., hereinafter "Beasley". Claims 7, 14, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Van Huben and further in view of Rossides. Claims 4, 5, 11, 12, 18, and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Van Huben and further in view of Ferrriter et al., hereinafter "Ferritter". Applicants respectfully traverse these rejections based on the following discussion.

**A. The Rejection Based on Van Huben in view of Beasley**

Applicants respectfully traverse this rejection because the applied prior art references do not teach or suggest the claimed feature of "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. To the contrary, the most that the applied prior art references teach relates to the management of part numbers after the design process has been completed.

The invention identifies only the items needed for capacity planning so that planning can occur prior to development completion with the same rigor as for fully developed components. The invention keys off of identification of the sub-components (developed and in development) and allows commercial software to plan capacity to work.

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The Van Huben patent describes how to use a work flow engine to control development. It also contains a system that reserves capacity from a BOM tree after the development is done. It does not address the issue of how to plan capacity for a part that is not yet developed. The Office Action refers to Van Huben as teaching the ability to supply a block of part numbers. However, Van Huben describes the classical manufacturing process whereby lists of part numbers (bill of materials) are created once the design of a various sub-component is completed to provide the manufacturing facility with a specific "recipe" of part numbers and instructions to manufacture the sub-component. In addition, Van Huben contains extensive explanation as to how to optimize the actual manufacturing process given various parameters. However, the type of bill of materials being discussed in Van Huben is simply utilized to provide optimized instructions to the manufacturing facility to allow the sub-component to be manufactured in the most efficient manner possible. Additional bills of material will be provided regarding other sub-components as well as the instructions for the combination of the various sub-components into the final product. Van Huben does not teach or suggest obtaining a block of part numbers from unallocated part numbers in a product manager tool so as to "allocate manufacturing capacity" for the customer deliverable order, as defined by Applicants' independent claims.

Van Huben describes a way of using BOM (bill of material control) to manage development and uses a work flow engine to handle. The discussion includes mechanisms of BOM structure and provides for development in many places. This process pertains to the control of development process, and to how part number are managed after the part number is released (replaced with follow on PNs). This type of development process is not linked to any customer engagement or to any manufacturing capacity planning or reserving of capacity.

Many systems allow forecasting (customer engagement process) to flow into capacity planning engines. None prior to the invention allow the same customer engagement process to work even for undeveloped parts. Normally, sales personnel input requirements manually using dummy part numbers. When the customer product is developed (subassemblies identified) the orders are mapped over to the new released part numbers in the new BOM tree and then order forecasting and capacity planning can happen in the system. In the case where a simple BOM

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tree is needed (like to build a cabinet) the delay is not a problem. In complex products, the delays can take years and the lead time to install capacity can also take years. Running a separate process puts the customer parts at risk because of the number of manual operations needed and also consumes much resource to manually collect and sort the data and adjust the capacity planned for the "already developed" products.

Thus, as shown above, Van Huben only relates to the realm of manufacturing production after the design has been completed and utilizes bills of materials (and associated part numbers) in order to provide manufacturing instructions and to optimize the manufacturing process. To the contrary, the claimed invention provides a method of "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15.

With respect to the rejection of dependent claims 2, 3, 9, 10, 16, and 17, the Office Action admits that Van Huben does not show a tool that changes manufacturing capacity or a customer engagement tool used to forecast cost and delivery of a product, and the Office Action makes reference to Beasley as showing such features. However, it is Applicants position that the combination of Van Huben and Beasley still does not teach the features defined by Applicants' independent claims and, therefore, dependent claims 2, 3, 9, 10, 16, and 17 are patentable simply because they depend from patentable independent claims. In addition, it is Applicants position that the combination of Van Huben and Beasley does not teach or suggest the features defined by dependent claims 2, 3, 9, 10, 16, and 17.

More specifically, Beasley describes a floor control system that uses BOM structure to set up and run a line (see Abstract). Beasley shows a planning system that also assumes that development is complete. The sub-components needs to be fully described for the process described to work. Beasley's system does not provide the capability to plan "underdevelopment" items and to manage costs and pricing as well as the capacity planning. As was discussed above with respect to Van Huben, Beasley is not associated with the realm of allocating manufacturing capacity, but instead is concerned with optimizing the actual manufacturing process itself. Therefore, it is Applicants position that both Van Huben and Beasley are fundamentally

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unrelated to the invention and no combination of the two references would teach or suggest the invention defined by the independent claims, much less the features defined by the dependent claims.

Beasley does not provide a way to reserve capacity or change the capacity reservation based on a forecast of a part number, and Beasley does not provide a way to use BOM subassemblies to reserve capacity for items still in development. Beasley does not provide a way for a customer's requirements to be held in BOM and then used to forecast capacity as the customer defined requirement changes.

Thus, as shown above, Van Huben and Beasley only relate to the realm of actual manufacturing production and utilize bills of materials (and associated part numbers) in order to provide manufacturing instructions and to optimize the manufacturing process after the design process is complete. To the contrary, the claimed invention includes the process of "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. Thus, the proposed combination of Van Huben and Beasley does not teach or suggest "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. Therefore, it is Applicants position that independent claims 1, 8, and 15 are patentable over the proposed combination of Van Huben and Beasley. Dependent claims 2, 3, 6, 9, 10, 13, 16, and 17 are similarly patentable not only because they depend from a patentable independent claim, but also because of the additional features of the invention they define. In view the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

**B. The Rejection Based on Van Huben and further in view of Rossides**

With respect to the rejection of dependent claims 7, 14, and 20, the Office Action admits that Van Huben does not show an automatic detection tool for expired part numbers, and the Office Action makes reference to Rossides as showing such a feature. However, it is Applicants

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position that the combination of Van Huben and Rossides still does not teach the features defined by Applicants' independent claims and, therefore, dependent claims 7, 14, and 20 are patentable simply because they depend from patentable independent claims. In addition, it is Applicants position that the combination of Van Huben and Rossides does not teach or suggest the features defined by dependent claims 7, 14, and 20.

More specifically, Rossides describes a system for registering charges and royalties to users of a database (see Abstract). As was discussed above with respect to Van Huben, Rossides is not associated with the realm of allocating manufacturing capacity, but instead is concerned with registering charges and royalties to users of a database. Therefore, it is Applicants position that both Van Huben and Rossides are fundamentally unrelated to the invention and no combination of the two references would teach or suggest the invention defined by the independent claims, much less the features defined by the dependent claims.

Rossides does not provide a way to add or delete part numbers from a relational database tool within a system that allocates manufacturing capacity. The claims use the language "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. As explained in greater detail above, the applied prior art of record does not teach or suggest the invention because the applied prior art of record is limited to the realm of manufacturing production (and/or database management) after the design is completed and does not teach or suggest the inventive aspects of manufacturing planning.

Thus, as shown above, Van Huben and Rossides only relate to the realm of manufacturing production (and/or database management) after the design is completed. To the contrary, the claimed invention "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. Therefore, it is Applicants position that independent claims 1, 8, and 15 are patentable over the proposed combination of Van Huben and Rossides. Dependent claims 7, 14, and 20 are similarly patentable not only because they depend from a patentable independent

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claim, but also because of the additional features of the invention defined. In view the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

**C. The Rejection Based on Van Huben and further in view of Ferriter**

With respect to the rejection of dependent claims 4, 5, 11, 12, 18, and 19, the Office Action admits that Van Huben does not show the bill of materials being modified and adapted as designing of the product progresses or the manufacturing of sub-components beginning before the design is completed, and the Office Action makes reference to Ferriter as showing such features. However, it is Applicants position that the combination of Van Huben and Ferriter still does not teach the features defined by Applicants' independent claims and, therefore, dependent claims 4, 5, 11, 12, 18, and 19 are patentable simply because they depend from patentable independent claims. In addition, it is Applicants position that the combination of Van Huben and Ferriter does not teach or suggest the features defined by dependent claims 4, 5, 11, 12, 18, and 19.

More specifically, Ferriter does not suggest that the manufacture of sub-components can begin before the design is completed, but only that an initial bill-of-materials can be completed by an unsophisticated user, to identify areas that need attention so that the bill-of-materials can be finalized later. Therefore, it is Applicants' position that both Van Huben and Ferriter are fundamentally unrelated to the invention and no combination of the two references would teach or suggest the invention defined by the independent claims, much less the features defined by the dependent claims.

Thus, as shown above, Van Huben and Ferriter only relate to the realm of actual manufacturing production after the design is completed and utilize bills of materials (and associated part numbers) in order to provide manufacturing instructions and to optimize the manufacturing process. To the contrary, the claimed invention includes the process of "beginning manufacturing of sub-components corresponding to said bill-of-materials before design of said product is completed" as defined by independent claims 1, 8, and 15. Therefore, it

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is Applicants' position that independent claims 1, 8, and 15 are patentable over the proposed combination of Van Huben and Ferriter. Dependent claims 4, 5, 11, 12, 18, and 19 are similarly patentable not only because they depend from a patentable independent claim, but also because of the additional features of the invention they define. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

### III. Formal Matters and Conclusion

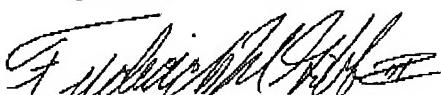
In view of the foregoing, Applicants submit that claims 1-4, 6-11, 13-18, and 20, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit  
Account Number 09-0456.

Respectfully submitted,

Dated: 5/18/04



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